



## Research Question to Answer:

*What is the cost impact of the librarian on patient care?*

### Introduction

Health care is currently in a time of reform. [The Triple Aim](#), a national initiative developed by the [Institute for Healthcare Improvement](#), seeks to

- improve the health of the population
- enhance the experience and outcomes of the patient
- reduce per capita cost of care (e.g., reduced length of stay, avoided readmission, etc.) for the benefit of communities

The quest for efficiency has placed more emphasis on the role evidence-based medicine plays on the reduction of cost. This results in a tighter squeeze on clinicians' time and increasing pressure for them to work at the top of their licenses. Using the librarian to identify and provide access to much of the evidence allows physicians to use their time and skills in their areas of expertise. Clinician's access to information/evidence, provided through the expert searching of the librarian, correlates to The Triple Aim's *reduce per capita cost for the benefit of communities*. The results of the *Cost Impact of the Librarian on Patient Care* study will inform hospital decision-making by focusing on the efficiencies that the librarian can provide while maximizing the efficiencies of physicians.

Health sciences librarian contributions address the Triple Aim concepts of cost and patient experience and outcomes. A significant body of published literature documents the effectiveness of the librarian in the health environment<sup>1,2,3</sup> but there is no recent work examining the impact of librarian services on the cost of care.

### Project Design

The study is based on the hypothesis that librarians have a positive impact on the cost of patient care through their mediated literature searching and information delivery expertise. This cost impact will be estimated by using an algorithm based on the number of patient care related searches mediated by librarians at their institution over a given time period. This is assuming the same quality information would not be as efficiently available without librarian involvement.<sup>5</sup> Then, for each type of improved patient care outcome or averted adverse event studied, the number of librarian searches will be multiplied by both the percentage of searches that are expected to result in each type of positive or averted negative event and the estimated savings from each type of occurrence. Calculating all types of improved outcomes or averted negative events yields estimated (gross) savings as a result of access to improved information.

**Mediated  
Searches**

**X**

**% of Improved Outcome or  
Averted Adverse Event**

**=**

**Reduced  
Cost Cost Impact?**

Data will be collected and analyzed at the end of each case for each mediated literature search. Clinicians will be asked (e.g., interview) about their perceptions of each type of improved outcome or averted negative outcome that occurred in the case. From these interviews, percentages of searches yielding each type of improved outcome can be estimated. Medical librarians will be recruited from CO, KS, MO, NE, UT, and WY. Data from each study

hospital will be collected and analyzed centrally and a report will be returned to the participating librarian.

### **National Impact**

The results of this study will be shared in national publications and national conferences of professional organizations, such as the [Medical Library Association](#). Products developed and tested during the study will include collection and analysis tools that will be made available online for health sciences librarians to calculate their own cost impact. The [National Network of Libraries of Medicine, MidContinental Region](#) will provide trainings and consultations for librarians to use these tools. Ultimately wherever this study is carried out, decision makers in hospitals can use the results for informed policy decisions.

Other professions (pharmacists, physical therapists, nurses) are also looking for a way to calculate their cost impact on patient care. This librarian cost impact methodology and study design will be shared so that it can be adapted by other professions.

### **Budget**

The budget request for this 3 year project is estimated at \$976,589. Personnel needed to implement the project:

- Project manager to coordinate the project
- Statistician using university provided data analysis
- Informatician to develop a process of extracting data from electronic health records
- Programmer to develop the online tools and publish the methodology to the web

Other Costs:

- Ovid Medline will be licensed for each participant to track search steps and results
- Travel funds for the project manager to work at participating hospitals with the on-site librarian(s) and for conference presentations on the project and its results.
- Reproduction costs for study result reports for participants and conference posters
- Office supplies
- Incentives for librarians and clinicians to participate in the study and contribute their experiences.

### **References**

1. [The value of library and information services in patient care: results of a multisite study](#)
2. [The value and impact of information provided through library services for patient care; a systematic review](#)
3. [Involving clinical librarians at the point of care: results of a controlled intervention.](#)
4. [How do primary care physicians seek answers to clinical questions? A literature review](#)

